

## CLAIMS

1. A receiving apparatus comprising:

automatic gain controlling means for providing  
automatic gain control to a received signal based  
5 on a gain coefficient;

SINR measuring means for measuring a ratio  
between a desired signal and an interference signal  
of the signal subjected to automatic gain control;

electric field intensity measuring means for  
10 measuring electric field intensity of the received  
signal;

absolute electric field intensity calculating  
means for calculating absolute electric field  
intensity of a desired signal based on said ratio  
15 between the desired signal and the interference  
signal and electric field intensity of said received  
signal; and

gain coefficient calculating means for  
calculating a gain coefficient based on the  
20 relationship between absolute electric field  
intensity of the desired signal and a preset target  
value in terms of the value of large and small.

2. A receiving apparatus comprising:

automatic gain controlling means for providing  
25 automatic gain control to a received signal based  
on a gain coefficient;

SINR measuring means for measuring a ratio  
between a desired signal and an interference signal

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of each user in a self-cell from the signal subjected to automatic gain control;

electric field intensity measuring means for measuring electric field intensity of the received  
5 signal;

absolute electric field intensity calculating means for calculating a total value of absolute electric field intensity of desired signals of all users in the self-cell based on said ratio between  
10 the desired signal and the interference signal and electric field intensity of said received signal; and

gain coefficient calculating means for calculating a gain coefficient based on the  
15 relationship between a total value and a preset target value in terms of the value of large and small.

3. The receiving apparatus according to claim 1, wherein said gain coefficient calculating means adds a preset corrected value to a previous gain  
20 coefficient when absolute electric field intensity of the desired signal is more than the target value, and subtracts said corrected value from said previous gain coefficient when absolute electric field intensity of the desired signal is less than the  
25 target value.

4. The receiving apparatus according to claim 1, wherein signal amplitude that can be expressed by bits is set as a target value.

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5. The receiving apparatus according to claim 1, wherein a value obtained by subtracting a margin from signal amplitude that can be expressed by bits is set as a target value.

5 6. A radio communication terminal apparatus having a receiving apparatus therein, said receiving comprising

automatic gain controlling means for providing automatic gain control to a received signal based  
10 on a gain coefficient;

SINR measuring means for measuring a ratio between a desired signal and an interference signal of the signal subjected to automatic gain control;

electric field intensity measuring means for  
15 measuring electric field intensity of the received signal;

absolute electric field intensity calculating means for calculating absolute electric field intensity of a desired signal based on said ratio  
20 between the desired signal and the interference signal and electric field intensity of said received signal; and

gain coefficient calculating means for calculating a gain coefficient based on the  
25 relationship between absolute electric field intensity of the desired signal and a preset target value in terms of the value of large and small.

7. A gain controlling means comprising the steps

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providing automatic gain control to a received signal to be converted to a digital signal;

calculating absolute electric field intensity  
of the desired signal based on said ratio between  
10 the desired signal and the interference signal and  
electric field intensity of said received signal;  
and

8. A gain controlling means comprising the steps  
of:

measuring a ratio between a desired signal and an interference signal of each user in a self-cell based on a signal where an interference signal is removed from said digital signal and said digital signal;

calculating a total value of absolute electric field intensity of the desired signals of all users

in the self-cell based on said ratio between the desired signal and the interference signal and electric field intensity of said received signal; and

- 5        calculating a gain coefficient of a next automatic gain control based on the relationship between said total value and a preset target object in terms of the value of large and small.

9. The gain controlling method according to  
10 claim 7, wherein a preset corrected value is added to a previous gain coefficient when absolute electric field intensity of the desired signal is more than the target value and said preset corrected value is subtracted from said previous gain coefficient when  
15 absolute electric field intensity of the desired signal is less than the target value.

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